

AN EDUCATIONAL SERIES DEVELOPED BY HK SYSTEMS

A Case For:

# Applying Warehouse Management Technology

WITHIN A MANUFACTURING ENVIRONMENT

## WAREHOUSE MANAGEMENT SYSTEMS: THEY'RE NOT JUST FOR DISTRIBUTION ANYMORE

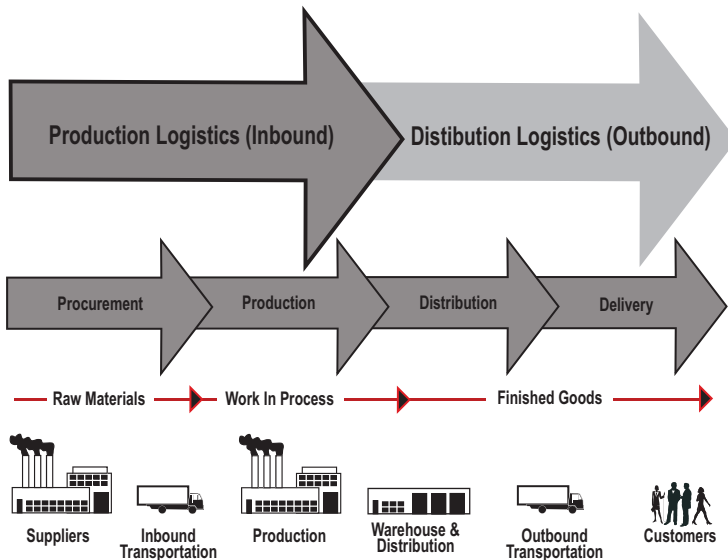
Today's modern supply chain typically focuses the application of Warehouse Management Systems (WMS) technology on the automation of the outbound finished goods process. Industry leaders, however, have realized significant returns by applying that same WMS technology to more efficiently and accurately manage the inbound flow of raw materials through the manufacturing process, a.k.a. Production Logistics.

### CORRECT APPLICATION OF INFORMATION TECHNOLOGY

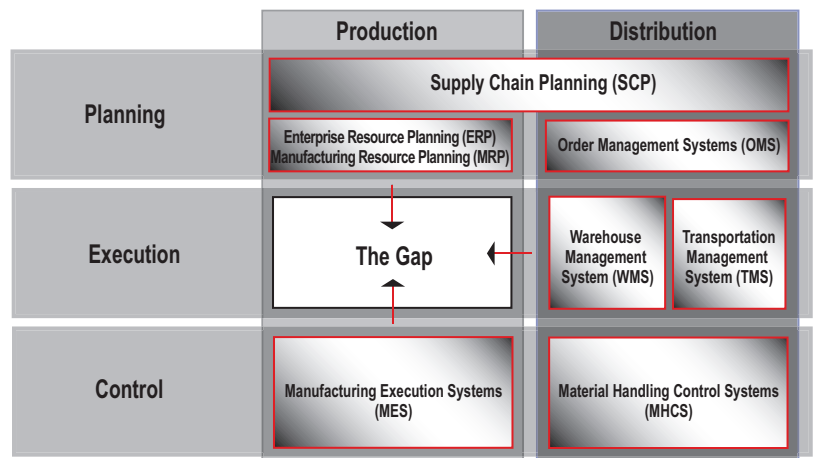
Logistics Information Technology (IT) applications can be broken down fundamentally by their operational orientation and the role they play in the supply chain process. A functional gap exists in the typical execution software space between the production planning and control

system levels. This gap results from the limited functional capabilities of ERP, MRP, and MES applications to control the resources required to move raw material from storage to consumption. **The question is can WMS move over and operate in a manufacturing environment? The answer is Yes!**

When considering whether WMS is the appropriate production logistics technology, it is important to consider what primary business problem an application was originally designed to solve. Planning solutions such as ERP were originally designed as financial or other administrative systems, operate in a batch transaction mode and are not well suited for the real-time world of logistics. Execution solutions, such as WMS, are task oriented and execute based upon real-time conditions, constraints and priorities of the business.



The supply chain is, after all, often defined as the flow of resources into and out of the enterprise's collective operations. Logistics is the part of the supply chain process that plans, implements, and controls the flow and storage of goods, services, and related information from a point of origin to a point of consumption in order to meet customer demand. Production Logistics manages the progressive stages of track and trace, beginning with the inbound transportation of raw materials from suppliers to a processing facility through to the delivery and consumption of that material as it is transformed into finished goods.



Companies have taken different approaches to gain better control and visibility of the flow of raw materials driven mainly by the various levels of complexity found within their manufacturing operations. No matter what solution is utilized, as the operating environment becomes more complex, the flaws of an application become more apparent through the introduction of process inefficiencies. These inefficiencies are the direct result of the application operating in an environment it was not designed for.

	Planning Systems (ERP, SCP)	Control Systems (MES)	Execution Systems (WMS, TMS)
<b>Processing Window</b> Planning Horizon: Response Time:	○ Macro: Months/Weeks Batch: Hours	● Current: Days/Hours Real Time: Seconds	● Current: Days/Hours Real Time: Seconds
<b>Data Model</b> Architecture: Scope: Decision Support:	○ Accounting/Transaction Enterprise/Supply Chain Aggregate/Summary	● Recipe/Work Orders Plant/Cell Finite Level	● Orders/Tasks Site/Multi-Site Finite Level
<b>Functional</b> Optimization Focus: Inventory: Constraints: Task Management Access Quality Control	○ Enterprise Financial Purchasing Theoretical/Batch Workflow Workstation Available	● Equipment Utilization Work in Progress Assumed Workflow Workstation SPC/SQC	● Material Flow Material Conversion/Tracking Actual/Real-Time Systems Directed Wireless Confirmation & Release

*Solution Architectures* ○ Weak ● Limited ● Strong

Technologies such as ERP and MES can and have been used to meet the needs of manufacturers' material flow requirements, but they are not architecturally designed to effectively execute complex material flow processes. Supply chain execution solutions such as WMS are well suited to handle the complex material flow job.

## YOUR NEXT STEPS . . .

- Document your existing production logistics operations and material flow rates.
- Define the current process inefficiencies and any changes that future growth and expansion will place on the manufacturing process.
- Assess the corporate return on investment and justification requirements of a new application implementation.
- Obtain executive management sponsorship for implementation of a production logistics solution.
- Select and implement a solution from an organization capable of meeting your current and future production logistics requirements.

## REALIZE MAXIMUM EXPERIENCE AND MINIMAL RISK WITH SOLUTIONS DELIVERED BY HK SYSTEMS

HK Systems is the most experienced automated material handling equipment and software total solutions provider. Our products, engineered and manufactured in the USA, synchronize material flow in a multitude of environments, delivering high efficiencies, speed and reliability. Our flexible solutions improve operational performance

with superior integration services, quality material handling equipment, software applications and premier support services.

**Discover How.**  
Call 1-800-HKSYSTEMS or visit  
[www.hksystems.com](http://www.hksystems.com) today for more information

## A SINGLE SOURCE SOLUTION FOR

# PRODUCTION LOGISTICS AUTOMATION

HK Systems' WMS has been extended to include material track and control functionality and is designed with specific work order processing capabilities to provide the best combination of architecture and function.

HKWMS ensures accurate material movement and consumption; documentation of raw materials movements and associated attributes;

maintenance of a precise genealogical history of the finished goods produced; more effective management of work-line scheduling; just in time (JIT) material replenishment; and reduction in excess inventory while increasing operational capacities.

**Current customers have realized additional benefits in:**

- Detailed material usage visibility
- Elimination of the consumption of incorrect ingredients
- Improved inventory accuracy
- Real-time waste tracking capabilities
- Improved labor utilization
- Improved space utilization



Discover How.

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